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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,841	06/01/2001	Richard S. Norman	13692	4104

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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT PAPER NUMBER

2664

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,841

Applicant(s)

NORMAN ET AL.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/23/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent No. 6731631 B1) in view of LeBihan (U.S. 5189672).

Regarding Claims 1, 13, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16), comprising: a routing layer (column 2, lines 20 – 22; lines 37 – 43), said routing layer including a plurality of I/O ports for exchanging data with components external to said router (Fig. 3, element 302a; Fig. 4, elements 402, 420, 414; column 7, lines 1 – 3); a switching layer to switch data packets between I/O ports of said routing layer (Fig. 3, elements 302a, 302b (layer 2/3/4 Switching Controller); column 7, lines 53

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– 58), said switching layer including an array of cells in communication with said routing layer for permitting exchange of data packets between said array of cells and said routing layer (Fig. 22, Fig. 28, element 2812; column 18, lines 1 – 7; lines 19 – 30); each cell including a memory for receiving a data packet from said routing layer (Fig. 20, column 16, lines 2 – 6); Chang et al. does not disclose expressly the routing layer including a controller to control release of a data packet toward a cell of said array at least in part on a basis of a degree of occupancy of the memory in said cell. Le Bihan discloses the limitation of the routing layer including a controller to control release of a data packet toward a cell of said array at least in part on a basis of a degree of occupancy of the memory in said cell (column 2, lines 34 – 48; column 3, lines 59 – 67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chang et al. to include the routing layer including a controller to control release of a data packet toward a cell of said array at least in part on a basis of a degree of occupancy of the memory in said cell such as that taught by Le Bihan in order to regulate the throughput as closely as possible (as suggested by Le Bihan, see column 1, lines 42 – 43).

Regarding Claim 2, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 1, wherein said routing layer comprising a memory for storing data packets for release to said switching layer (Fig. 3, elements “lookup memory and packet memory”), said controller controlling release of data packets from the memory of said routing layer (Fig. 3, element “Octal Fast Port Controller”; column 7, lines 25 – 35).

Regarding Claim 3, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 2, wherein the memory of said routing layer includes an area for storing data indicative of a degree of occupancy of the memory of said cell (Fig. 20, column 16, lines 2 – 6; column 16, lines 33 – 41).

Regarding Claim 4, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 3, wherein said controller is in communication with said memory to obtain access to the data indicative of a degree of occupancy of the memory of said cell (column 16, lines 33 – 41), said controller controlling release of data packets from the memory of said routing layer at least in part on a basis of the data indicative of a degree of occupancy of the memory of said cell (column 16, lines 24 – 32; lines 33 – 41).

Regarding Claim 5, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 4, wherein the memory of said routing layer includes a plurality of areas associated with respective cells of said array (Fig.3, element “Lookup memory”), each area operative to store data indicative of a degree of occupancy of the memory of a corresponding cell (column 16, lines 24 – 32; lines 33 – 41).

Regarding Claim 6, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 5, wherein said controller (Fig. 3, elements “Layer 2/3/4 Switching Controller” of reference elements 302a and 302b; column 15, lines 53 – 63) is responsive to a control signal issued by said switching layer to alter the data indicative of a degree of occupancy of the memory of a given cell in the area associated with the given cell (column 16, lines 24 – 32; lines 33 – 41).

Regarding Claims 7 and 15, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 6, wherein each cell of said switching layer is operative to issue a control signal to said controller to convey to said controller data indicative of the degree of occupancy of the memory of the cell (Fig. 17, column 14, lines 40 – 54).

Regarding Claims 8 and 14, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 7, wherein the memory of each cell is partitioned into slots (Fig. 17, elements 1710, 1714 etc.; column 14, lines 31 – 34), each slot capable of storing a data packet (column 13, lines 64 – 67).

Regarding Claim 9, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 8, wherein each area associated with a given cell of said array is partitioned into zones (Fig. 17, column 14, lines 31 – 36), each zone being associated with a slot of the memory of the given cell (column 14, lines 40 – 43), each zone containing data indicating if the associated slot of the memory of the given cell is available for reception of a data packet (column 14, lines 43 – 47).

Regarding Claims 10, 16, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 9, wherein each cell of said array, in response to release of a data packet from a certain slot of the memory of the cell (Fig. 17 and Fig. 18, column 14, lines 58 – 65), issues the control signal to convey to said controller data indicative of the degree of occupancy of the memory of the cell (column 14, lines 43 – 47; column 16, lines 33 – 41).

Regarding Claim 11, Chang et al. discloses the limitation of a router (column 2,

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lines 14 – 16) as defined in claim 10, wherein the control signal contains information identifying the certain slot of the memory of the cell (column 14, lines 45 – 48; lines 58 – 65).

Regarding Claim 12, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16) as defined in claim 11, wherein said controller is responsive to the control signal containing information identifying the certain slot of the memory of the cell to alter the data in the zone of the memory of the routing layer associated with the certain slot (column 15, lines 3 – 20).

Regarding Claim 17, Chang et al. discloses the limitation of a router (column 2, lines 14 – 16), comprising: a routing layer (column 2, lines 20 – 22; lines 37 – 43), said routing layer including a plurality of I/O ports for exchanging data with components external to said router (Fig. 3, element 302a; Fig. 4, elements 402, 420, 414; column 7, lines 1 – 3); a switching layer to switch data packets between I/O ports of said routing layer (Fig. 3, elements 302a, 302b (layer 2/3/4 Switching Controller); column 7, lines 53 – 58); said switching layer including an array of cells in communication with said routing layer for permitting exchange of data packets between said array of cells and said routing layer (Fig. 22, Fig. 28, element 2812; column 18, lines 1 – 7; lines 19 – 30); each cell including a memory for receiving a data packet from said routing layer (Fig. 20, column 16, lines 2 – 6); Chang et al. does not disclose expressly wherein said switching layer includes a memory, the control signal containing information indicating the degree of occupancy of said memory. Le Bihan discloses the limitation of wherein the switching layer includes a memory, the control signal containing information

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indicating the degree of occupancy of said memory (Fig.1, column 2, lines 34 – 48; column 3, lines 59 – 67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chang et al. to include wherein the switching layer includes a memory, the control signal containing information indicating the degree of occupancy of said memory such as that taught by Le Bihan in order to regulate the throughput as closely as possible (as suggested by Le Bihan, see column 1, lines 42 – 43).

Response to Arguments

4. Applicant's arguments with respect to claims 1 – 17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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ACL

Sep 03, 2005


Ajit Patel
Primary Examiner